

**REMARKS**

By this Amendment, Applicants amend claims 1, 7-12, 20-23, and 29-31 for clarity and to recite subject matter previously presented in other claims in this application. In addition, Applicants cancel claims 4, 6, 17, 19, 26, 28, and 32-39 without prejudice or disclaimer of their subject matter. Support for the amendments can be found in the specification at, for example, page 2, line 33 to page 3, line 13; page 4, lines 8-13; page 13, lines 16-30; and page 13, line 32 to page 14, line 9. No prohibited new matter has been introduced.

In the Office Action,<sup>1</sup> claims 1-12 and 15-39 are provisionally rejected on the ground of non-statutory obviousness-type double patenting; claims 23-31, 38, and 39 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite; claims 1-12 and 15-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,548,750 to Larsson et al. ("*Larsson*") in view of U.S. Patent No. 5,748,870 to Tims et al. ("*Tims*"); and claims 32-39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Larsson* in view of *Tims* and U.S. Patent No. 6,412,034 to Chan ("*Chan*").

For the following reasons, Applicants traverse the rejections of the pending claims and submit that the claims are patentable over the prior art of record. With respect to claims 4, 6, 17, 19, 26, 28, and 32-39, the rejections of these claims are rendered moot by the cancellation of these claims.

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

**I. Double Patenting Rejections**

Applicants respectfully traverse the provisional rejection of claims 1-12 and 15-19 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-14, 16, and 18-40 of copending U.S. Application No. 10/526,504, which issued as U.S. Patent No. 7,457,933 on November 25, 2008. Although the '504 application was allowed and matured into a patent, the current application is still pending and the pending claims have been amended. Therefore, Applicants respectfully request that the double patenting rejection based on the '504 application be held in abeyance until the claims in this case are indicated as being allowable. At that time, Applicants will consider filing a Terminal Disclaimer, if still necessary.

In addition, Applicants respectfully traverse the provisional rejection of claims 1-12 and 15-19 on the ground of non-statutory obviousness-type double patenting in view of claims 1-13, 15, and 17-46 of copending U.S. Application No. 10/526,749. To the undersigned's knowledge, the '749 application is currently pending, and, thus, no double patenting circumstances can arise until a patent is granted. Since a patent has not yet issued from the '749 application or this application, Applicants respectfully request that the provisional rejection based on the '749 application also be held in abeyance and any resolution in the form of a Terminal Disclaimer or otherwise be deferred.

**II. Rejection under 35 U.S.C. § 112, Second Paragraph**

Applicants respectfully traverse the rejection of 23-31, 38, and 39 under 35 U.S.C. § 112, second paragraph, as being indefinite.

The Office Action alleges that “the written description fails to clearly link or associate the disclosed structure . . . to the claimed function” and requires Applicants to “[s]tate on the record where the corresponding structure . . . [is] set forth in the written description of the specification that perform[s] the claimed function.” Office Action at 4-5 (emphasis added).

In response, Applicants note that “[t]he proper test for meeting the definiteness requirement [of 35 U.S.C. § 112, second paragraph,] is that the corresponding structure . . . of a means-plus-function limitation must be disclosed in the specification itself in a way that one skilled in the art will understand what structure will perform the recited function.” M.P.E.P. § 2181(II). Even the “drawings may provide a written description if it would have been clear to those skilled in the art what structure must perform the function recited in the means-plus-function limitation.” *Id.* Therefore, the definiteness requirement is satisfied so long as the corresponding structure is disclosed and one skilled in the art would understand that the disclosed structure performs the claimed function.

In this case, a computer system 101 comprising a computer 103 having a CPU 105 and a working storage 112 is described in the specification at page 9, lines 1-20 and illustrated in Fig. 1. Furthermore, several examples of storage means are disclosed in the specification at, for instance, page 8, lines 1-13. Based on the disclosure of the

present application, one skilled in the art would understand that these exemplary structures perform the claimed “selecting,” “assigning,” “storing,” and “determining” functions.

Therefore, the specification discloses sufficient structure for the claimed functions, and one skilled in the art would know that the above-noted structure corresponds to and can perform the claimed functions. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of the claims under 35 U.S.C. § 112, second paragraph.

**III. Rejection of Claims 1-12 and 15-31 under 35 U.S.C. § 103(a)**

Applicants respectfully traverse the rejection of claims 1-12 and 15-31 under 35 U.S.C. § 103(a) as being unpatentable over *Larsson* in view of *Tims*. A *prima facie* case of obviousness has not been established.

“The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.” M.P.E.P. § 2141(III). “[T]he framework for objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). . . . The factual inquiries . . . are as follows:

(A) [Determining the scope and content of the prior art;]

(B) Ascertaining the differences between the claimed invention and the prior art;

and

(C) Resolving the level of ordinary skill in the pertinent art.”

M.P.E.P. § 2141(II). “Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.” M.P.E.P. § 2141(III).

Independent claim 1, as amended, recites a method for moving data objects comprising, for example, “selecting a data object stored in the first storage location, the data object being assigned to an identifier (ID),” “determining, using a processor, whether another process is attempting to perform a transaction with the data object by querying whether the ID is stored in a transactional type lock object,” “upon determining that another process is not attempting to perform a transaction with the data object, storing the ID in the transactional type lock object,” “determining whether another process is moving the data object to a new storage location by querying whether the ID is stored in a permanent type lock object,” and “upon determining that another process is not moving the data object to a new storage location, storing the ID in the permanent type lock object.”

The Office Action appears to allege that the LID table of *Larsson* is a “transactional type lock object.” Office Action at 6. This is incorrect.

*Larsson* discloses that the BackupSynch variable in the LID table may be set to either “include” or “exclude.” *Larsson*, col. 8, ll. 7-10. *Larsson* further discloses that the LID table includes pointers to objects. *Larsson*, col. 4, lines 32-36. However, the LID table of *Larsson* does not store an ID of a data object. Furthermore, the BackupSynch variable in the LID table of *Larsson* also does not store an ID of a data object selected from a storage location. Therefore, *Larsson* fails to teach or suggest the claimed

“transactional type lock object” and, more specifically, fails to teach or suggest “selecting a data object stored in the first storage location, the data object being assigned to an identifier (ID)” and “storing the ID [assigned to the data object] in the transactional type lock object,” as recited in claim 1.

Furthermore, *Larsson* fails to teach or suggest “determining . . . whether another process is attempting to perform a transaction with the data object by querying whether the ID is stored in a transactional type lock object,” as recited in claim 1. *Larsson* discloses that “[c]opying objects to the backup area will . . . not start until the local data base handler has made all changes from transactions to be included in the backup.” *Larsson*, col. 6, ll. 15-18. However, the system of *Larsson* does not include the claimed “transactional type lock object” and the “ID,” and, therefore, is incapable of “determining . . . whether another process is attempting to perform a transaction with the data object by querying whether the ID is stored in a transaction type lock object,” as recited in claim 1 (emphasis added). Moreover, in *Larsson*, the only variable in the LID table that can be queried is the BackupSynch variable, which can be set to “include” or “exclude.” This indicates whether a data object should be copied to the backup area, but *Larsson* cannot “query[] whether the ID is stored in a transactional type lock object,” as recited in claim 1. Accordingly, *Larsson* fails to teach or suggest “determining . . . whether another process is attempting to perform a transaction with the data object by querying whether the ID is stored in a transactional type lock object,” as recited in independent claim 1.

Contrary to the assertions in the Office Action, *Larsson* also fails to teach or suggest other features of Applicants' claims, such as "upon determining that another process is not attempting to perform a transaction with the data object, storing the ID in the transactional type lock object," as recited in claim 1. As discussed above, *Larsson* fails to teach or suggest "storing the ID [assigned to the data object] in the transactional type lock object," as recited in claim 1. As a result, *Larsson* also fails to teach or suggest "upon determining that another process is not attempting to perform a transaction with a data object," performing the step of "storing the ID in the transactional type lock object," as recited in claim 1. The ability to detect the storage of an ID in a data object or to store such an ID is completely absent in *Larsson*.

The Office Action also fails to identify any item in *Larsson* that allegedly teaches or suggests the claimed "permanent type lock object." Claim 1 recites two separate and distinct lock objects: (1) "transactional type lock object" and (2) "permanent type lock object." The Office Action identifies the LID table in *Larsson* as allegedly corresponding to the "transactional type lock object," but fails to point to any separate and distinct item in *Larsson* that could correspond to the "permanent type lock object." Moreover, the LID table of *Larsson* is not a "permanent type lock object" for at least the same reasons presented above as to why the LID table is not a "transactional type lock object" (i.e., the LID table does not store an ID of a data object).

Furthermore, *Larsson* fails to teach or suggest "determining whether another process is moving the data object to a new storage location by querying whether the ID is stored in a permanent type lock object" and "upon determining that another process is

not moving the data object to a new storage location, storing the ID in the permanent type lock object.” In *Larsson*, copying objects to the backup area is dependent on the BackupSynch variable in the LID table, but *Larsson* does not “determin[e] whether another process is moving the data object to a new storage location . . . [before] storing the ID in the permanent type lock object,” as recited in claim 1.

Moreover, *Larsson* teaches away from the method of claim 1. *Larsson* discloses that “transactions are allowed to perform operations to the data base at the same time as backing up is performed” and “transactions shall be allowed to perform operations towards the data base simultaneously with backing up.” *Larsson*, col. 2, ll. 12-13; col. 4, ll. 56-59. In the “Description of the Related Art” section of Applicants’ specification, Applicants address several problems that can “arise[] if several archiving processes run in parallel.” Specification, p. 2, line 33 to p. 3, line 3. These problems can occur in *Larsson*, because transactions are allowed to perform operations towards the data base simultaneously with backing up, but *Larsson* does not solve or even address these problems. In contrast, claim 1 recites “determining . . . whether another process is attempting to perform a transaction with the data object” and “determining . . . whether another process is moving the data object to a new storage location.” *Larsson*’s use of the central backup handler negates the need for such determining steps, and *Larsson* explicitly teaches away from the claimed determining steps by stating that “transactions [are] allowed to perform operations towards the data base simultaneously with backing up.”



Finally, contrary to the assertions in the Office Action, *Tims* fails to cure the deficiencies of *Larsson*. Although *Tims* discloses locking storage devices, *Tims* fails to disclose any form of a “lock object” in which an ID assigned to a data object is stored.<sup>2</sup> Therefore, *Tims* fails to teach or suggest, among other features, “storing the ID in the transactional type lock object” and “storing the ID in the permanent type lock object,” as recited in claim 1. Furthermore, *Larsson* and *Tims* in any combination fail to teach or suggest other features of claim 1, such as “deleting the ID from the transactional type lock object” and “deleting the ID from the permanent type lock object after the data object has been deleted from the first storage location.”

For at least the foregoing reasons, the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 1 when *Larsson* and *Tims* are considered alone or in any proper combination. Therefore, this § 103(a) rejection is improper and should be withdrawn.

Other features of claim 1 are also neither disclosed nor suggested by the asserted prior art. For example, *Larsson* fails to teach or suggest “deleting the ID from the permanent type lock object,” as recited in claim 1. As noted above, *Larsson* does not disclose any “lock object” with an “ID” and, therefore, there is no “ID” to delete, as claimed. Moreover, even if *Larsson*’s LID table could be considered a “lock object,” which Applicant’s do not agree, *Larsson* only discloses that the LID table 8 has pointers

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<sup>2</sup> *Tims* discloses, “apply[ing] a lock to either primary or secondary storage devices.” *Tims*, col. 4, ll. 45-46 (emphasis added). This and other disclosures of locks in *Tims* all relate to locking or unlocking entire storage devices or drives, rather than individual data objects stored in the storage devices.

10 and 12, which point to objects A, B, C, and D that are copied from data base area 2 to backup area 4. *Larsson*, col. 4, ll. 27-47; Fig. 1. If such pointers 10 and 12 were deleted from the LID table 8, then the locations of objects A, B, C, and D would be lost and *Larsson's* system would be inoperable. Therefore, for at least these reasons, *Larsson* fails to teach or suggest "deleting the ID from the permanent type lock object," as recited in claim 1.

With respect to "deleting the ID from the permanent type lock object," as recited in claim 1, the Office Action alleges that *Tims* discloses "sequence of locks [being] applied to a primary and secondary storages." Office Action at 7. However, no specific evidence is cited to support this assertion, and *Tims* does not specify the details of how the primary and secondary storages are locked and unlocked. More specifically, *Tims* does not disclose or suggest an "ID" for a data object and "storing the ID in the permanent type lock object" or "deleting the ID from the permanent type lock object," as recited in claim 1.

In addition, the Office Action alleges that *Tims* discloses "the primary locks are deleted after data object write activity has been compl[e]ted." Office Action at 7 (emphasis added). However, claim 1 recites "deleting the ID from the permanent type lock object" (emphasis added), not deleting the lock object itself.

Moreover, claim 1 recites "deleting the ID from the permanent type lock object after the data object has been deleted from the first storage location." (Emphasis added.) The Office Action alleges that *Tims* discloses "the primary locks are deleted after data object write activity has been compl[e]ted, [i.e.,] . . . the data object has been

replicated from the primary to the secondary storages.” Office Action at 7. However, *Tims* is completely silent with respect to deleting the data from the primary storage after the data has been replicated to the secondary storage. Therefore, *Tims* fails to teach or suggest “deleting the ID from the permanent type lock object after the data object has been deleted from the first storage location,” as recited in claim 1 (emphasis added). Accordingly, *Tims* fails to teach or suggest “deleting the ID from the permanent type lock object after the data object has been deleted from the first storage location,” as recited in claim 1.

For at least the foregoing reasons, *Tims* fails to teach or suggest “deleting the ID from the transactional type lock object” and “deleting the ID from the permanent type lock object after the data object has been deleted from the first storage location.” *Tims* thus fails to cure all of the deficiencies of *Larsson*.

Furthermore, *Larsson* and *Tims* fail to disclose “assigning the ID to the data object stored in the second storage location,” as recited in claim 1. In claim 1, “a data object stored in the first storage location . . . [is] assigned to an identifier (ID),” and after “storing the data object at the second storage location,” claim 1 further recites “assigning the ID to the data object stored in the second storage location.” These features are completely missing from both *Larsson* and *Tims*, when considered alone or in any combination.

For the reasons discussed above, *Larsson* and *Tims* both fail to use “IDs” in combination with “lock objects” and, therefore, do not anticipate or render obvious the “assigning” feature of claim 1.

Accordingly, for at least these additional reasons, a *prima facie* case of obviousness has not been established with respect to claim 1 based on *Larsson* and *Tims*, and the § 103(a) rejection is improper.

Independent claims 11, 12, and 23, although different in scope from claim 1, are allowable for at least reasons similar to those given for claim 1. In addition, dependent claims 2, 3, 5, 7-10, 15, 16, 18, 20-22, 24, 25, 27, and 29-31 are allowable at least due to their dependence from an allowable base claim. Claims 4, 6, 17, 19, 26, and 28 have been canceled and the rejections of these claims are moot.

#### **CONCLUSION**

In view of the foregoing, Applicants respectfully request reconsideration of this application and timely allowance of the pending claims.

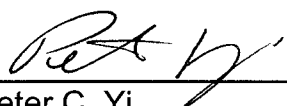
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: \_\_\_\_\_

  
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